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FORM PTO-1390  
REV. 5-93

US DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTORNEYS DOCKET NUMBER  
**P00,1722**

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

**09/647089**

INTERNATIONAL APPLICATION NO.  
**PCT/DE99/00896**

INTERNATIONAL FILING DATE  
25 March 1999

PRIORITY DATE CLAIMED  
26 March 1998

TITLE OF INVENTION

**"SUPPLY MODULE FOR FEEDING ELECTRICAL COMPONENTS TO AN AUTOMATIC  
COMPONENT-MOUNTING MACHINE"**

APPLICANT(S) FOR DO/EO/US

**Johann MELF and Thomas LIEBEKE**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
  2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
  3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay.
  4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
  5. ☒ A copy of International Application as filed (35 U.S.C. 371(c)(2))
    - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
    - b. ☐ has been transmitted by the International Bureau.
    - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
  6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
  7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. §371(c)(3))
    - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
    - b. ☐ have been transmitted by the International Bureau.
    - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
    - d. ☒ have not been made and will not be made.
  8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
  9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
  10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).
- Items 11. to 16. below concern other document(s) or information included:
11. ☒ An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98; (PTO 1449, Prior Art, Search Report).
  12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.  
(SEE ATTACHED ENVELOPE)
  13. ☒ A FIRST preliminary amendment.  
☐ A SECOND or SUBSEQUENT preliminary amendment.
  14. ☐ A substitute specification.
  15. ☐ A change of power of attorney and/or address letter.
  16. ☒ Other items or information:
    - a. ☒ Submittal of Drawings
    - b. ☒ EXPRESS MAIL #EJ220499395 US, dated September 26, 2000.

U.S. APPLICATION NO. (if known, see 37 C.F.R. 1.13) 09/647089 INTERNATIONAL APPLICATION NO.

PCT/DE99/00896

ATTORNEY'S DOCKET NUMBER  
P00,172217. ☒ The following fees are submitted:**BASIC NATIONAL FEE (37 C.F.R. 1.492(a)(1)-(5):**

Search Report has been prepared by the EPO or JPO ..... \$840.00

International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) .. \$700.00

No international preliminary examination fee paid to USPTO (37 C.F.R. 1.482) but  
international search fee paid to USPTO (37 C.F.R. 1.445(a)(2)) ..... \$770.00Neither international preliminary examination fee (37 C.F.R. 1.482) nor international  
search fee (37 C.F.R. 1.445(a)(2)) paid to USPTO ..... \$1040.00International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) and all  
claims satisfied provisions of PCT Article 33(2)-(4) ..... \$ 96.00**ENTER APPROPRIATE BASIC FEE AMOUNT =**

CALCULATIONS

PTO USE ONLY

\$ 840.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months  
from the earliest claimed priority date (37 C.F.R. 1.492(e)).

\$

Claims

Number Filed

Number  
Extra

Rate

Total Claims

8 - 20 =

X \$ 18.00

\$ .00

Independent Claims

2 - 3 =

X \$ 78.00

\$ .00

Multiple Dependent Claims

\$260.00 +

\$

**TOTAL OF ABOVE CALCULATIONS =**

\$ .00

Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must  
also be filed. (Note 37 C.F.R. 1.9, 1.27, 1.28)

\$

**SUBTOTAL =**

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+

**TOTAL NATIONAL FEE =**

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Fee for recording the enclosed assignment (37 C.F.R. 1.21(h). The assignment must be  
accompanied by an appropriate cover sheet (37 C.F.R. 3.28, 3.31). \$40.00 per property

+

**TOTAL FEES ENCLOSED =**

\$ 840.00

Amount to be  
refunded

\$

charged

\$

a. ☒ A check in the amount of \$ 840.00 to cover the above fees is enclosed.b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees. A  
duplicate copy of this sheet is enclosed.c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any  
overpayment to Deposit Account No. 501519. A duplicate copy of this sheet is enclosed.NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. 1.137(a) or (b)) must be  
filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Schiff Hardin & Waite  
Patent Department  
6600 Sears Tower  
Chicago, Illinois 60606

SIGNATURE

Melvin A. Robinson

NAME

31,870

Registration Number

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U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

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## TITLE OF INVENTION

**"SUPPLY MODULE FOR FEEDING ELECTRICAL COMPONENTS TO AN AUTOMATIC  
COMPONENT-MOUNTING MACHINE"**

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    - b. ☒ EXPRESS MAIL #EJ220499395 US, dated September 26, 2000.

U.S. APPLICATION NO. (if known, give 37 C.F.R. 1.51)

09/647089

INTERNATIONAL APPLICATION NO.

PCT/DE99/00896

ATTORNEY'S DOCKET NUMBER

P00,1722

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6600 Sears Tower  
Chicago, Illinois 60606

SIGNATURE

Melvin A. Robinson

NAME

31,870

Registration Number

- 1 -

IN THE UNITED STATES ELECTED OFFICE  
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE  
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

**"PRELIMINARY AMENDMENT"**

5 APPLICANT: Johann MELF et al.

SERIAL NO.: EXAMINER:

FILING DATE: ART UNIT:

INTERNATIONAL APPLICATION NO.: PCT/DE99/00896

INTERNATIONAL FILING DATE: 25 March 1999

10 INVENTION: SUPPLY MODULE FOR FEEDING ELECTRICAL  
COMPONENTS TO AN AUTOMATIC COMPONENT-  
MOUNTING MACHINE

Hon. Assistant Commissioner for Patents  
Box PCT

15 Washington D.C. 20231

SIR:

Amend the above-identified international application before entry into the  
national stage before the U.S. Patent & Trademark Office under 35 U.S.C. §371  
as follows:

20 **IN THE SPECIFICATION**

On page 1, in line 1, delete "Description";  
before the title, insert --

**S P E C I F I C A T I O N**

**TITLE--;**

after the title, insert --

**BACKGROUND OF THE INVENTION**

**Field of the Invention--;**

5 in line 6, before "invention" insert --present--;  
after line 8, insert --

**Description of the Related Art--;**

in line 10, before "EP 0 460 834 A1" insert --European patent document--;  
after line 33, insert --

10 **SUMMARY OF THE INVENTION--;**

in line 34, before "invention" insert --present--; and  
in lines 37 and 38, delete "accordance with claim 1." and insert --a supply  
module for feeding electrical components to an automatic component-mounting  
machine, in which case the components can be displaced in the supply module  
15 into a collection position from which they can be removed by a component-  
mounting head of the automatic component-mounting machine and can be placed  
onto a component carrier to be populated, a removal side of the collection position  
can be blocked by means of an adjustable locking element that covers the supplied  
component at least partially in a blocking position and that releases the  
20 component in a removal position, the locking element is designed as a strip  
extending in the advancing direction, the width of which strip is less than the  
lateral distance between the component and an adjacent exterior side of the supply  
module, the exterior side extending in the advancing direction and being  
perpendicular to the advancing plane, and the locking element can be moved  
25 transversely with respect to the advancing direction into the edge region between  
the component and the exterior side.--.

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On page 2, in line 10, delete "said" and insert --the--;

in line 16, delete "characterized in the claims 2 to 4:" and insert --provided  
by the locking element being designed as a narrow finger projecting in the  
advancing direction, the free end of which finger forming the strip and projecting  
into the removal region of the component in the blocking position, and the free  
end being movable into the edge region by lateral deflection. In a preferred  
embodiment, the finger is designed as a freely projecting bending spring which is  
anchored by its non-free end on a fixed bearing of the supply module. In one  
embodiment, the bending spring is designed as an electrically actuatable bending  
transducer, in particular of piezoceramic.-- ;

in line 17, delete "according to claim 2";

in line 24, delete "The" and insert --A further-- and delete "according to  
claim 3--; and

in line 33, delete "The" and insert --Another-- and delete "according to  
claim 4--.

On page 3, after line 5, insert --

**BRIEF DESCRIPTION OF THE DRAWINGS--;**

in line 6, before "invention" insert --present--;

in line 8, change "drawing" to --drawings--;

after line 16, insert --

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--;**

in line 18, after "reel" insert --10--;

in line 30, after "drive" insert --12-- and delete "(not illustrated)";

in line 33, delete "(not illustrated)" and after "head" insert --16--;

in line 35, after "arrow" insert --18--; and

in line 38, change "arrow" to --arrow 20--.

On page 4, in line 20, after "element 7" insert --from a control 22-- and after "applied" insert --by the control 22--; and

after line 28, add the following new paragraph --

Although other modifications and changes may be suggested by those skilled in the art, it is the intention of the inventors to embody within the patent warranted hereon all changes and modifications as reasonably and properly come within the scope of their contribution to the art.--.

#### **IN THE CLAIMS**

On page 5, in line 1, change "Patent Claims" to --We Claim:--.

Amend the claims as follows:

1. (Amended) A supply module [(2)] for feeding electrical components [(5)] to an automatic component-mounting machine having a component-mounting head, comprising:  
a component displacement apparatus in which [case] the electrical components are [(5) can be] displaced in an advancing direction along an advancing plane to a removal [in the supply module into a collection] position from which the components are [they can be] removed by the [a] component-mounting head of the automatic component-mounting machine [and can be placed onto a component carrier to be populated], said component displacement apparatus defining a removal opening at a removal side through which the component-mounting head removes the electrical components; [in which case a removal side of the collection position can be blocked by means of] an adjustable locking element [(7),] that [covers the supplied component (5)] at least partially blocks an electrical component at the removal opening when said adjustable locking element is in a blocking position and that releases the electrical component at the removal opening when said adjustable



locking element is [(5)] in a removal position, [characterized in that the] said adjustable locking element including [(7) is designed as] a strip extending in the advancing direction, said strip having a [the] width of [which strip is] less than a [the] lateral distance between the electrical component at the removal opening [(5)] and an adjacent exterior side [(3)] of the component displacement apparatus [supply module (2)], said adjacent exterior side extending in the advancing direction and being perpendicular to the advancing plane, said adjustable [and in that the] locking element being selectively movable [(7) can be moved] transversely with respect to the advancing direction into an [the] edge region between the electrical component at the removal position [(5)] and the exterior side [(3)].

2.(Amended) A [The] supply module as claimed in claim 1, wherein said adjustable [characterized in that the] locking element [(7)] is [designed as] a narrow finger projecting in the advancing direction, said narrow finger having a [the] free end [of] which [finger] forms the strip and projects into the removal position over the electrical [region of the] component [(5)] in the blocking position, and said [in that the] free end being movable [can be moved] into the edge region by lateral deflection.

3.(Amended) A [The] supply module as claimed in claim 2, wherein said narrow [characterized in that the] finger [(e.g. 7)] is [designed as] a freely projecting bending spring which is anchored by its non-free end on a fixed bearing [(8)] of the component displacement apparatus [supply module (2)].

4.(Amended) A [The] supply module as claimed in claim 3, wherein said

freely projecting [characterized in that the] bending spring is [designed as] an electrically actuatable [, in particular piezoceramic,] bending transducer [(e.g. 7)].

Add new claim 5 as follows:

- 5        5. A supply module as claimed in claim 4, wherein said electrically actuatable bending transducer is of piezoceramic material.

Add new claim 6 as follows:

- 10        6. A component supply module for supplying components to a mounting head, comprising:  
a component carrying belt moving in a conveying direction and having  
component holding locations distributed along its length;  
a cover over said component carrying belt to hold the components in said  
component holding locations during movement of said component  
carrying belt, said cover defining a removal opening at a removal position  
through which the mounting head accesses the components for removal  
15        from the supply module; and  
a component restraining element mounted on said cover and having a free end  
extending over said removal opening when in a restraining position, said  
component restraining element substantially preventing the component in  
said removal position from being dislodged from its component holding  
20        location when said component restraining element is in the restraining  
position, said component restraining element being selectively movable to  
a release position that permits the component in said removal position to  
be removed from its component holding location by the mounting head.

Add new claim 7 as follows:

7. A component supply module as claimed in claim 6, wherein said component restraining element is an elongated strip having a fixed end mounted so said cover and a free end that flexes to move said release position.

Add new claim 8 as follows:

8. A component supply module as claimed in claim 7, wherein said component restraining element is a piezoceramic strip, and further comprising: a voltage supply selectively connectable to said piezoceramic strip cause said strip to flex between said restraining position and said removal position.

#### **IN THE ABSTRACT**

Cancel the abstract and add a new abstract as follows:

A supply module for feeding electrical components to an automatic component-mounting machine has a locking element which is a piezoceramic bending transducer that extends in the longitudinal direction of the supply module along a supply path for the components. A free end of the locking element projects into a window of the supply module to an extent such that the locking element is located slightly above the component which has been conveyed there and is ready for removal. By applying an operating voltage to the locking element, the locking element can be deflected laterally to an extent such that it is moved out of the coverage region over the component transversely with respect to the component advancing direction.

#### **REMARKS**

The foregoing amendments to the specification and claims under Article 41 of the Patent Cooperation Treaty place the application into a form for prosecution before the U.S. Patent and Trademark Office under 35 U.S.C. §371.

5

10

Melvin A. Robinson (reg. no. 31,870)  
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6600 Sears Tower  
Chicago, Illinois 60606  
Telephone: 312-258-5785

ATTORNEY FOR APPLICANT

- 1 -

IN THE UNITED STATES ELECTED OFFICE  
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE  
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

**"SUBMITTAL OF DRAWINGS"**

5 APPLICANT: Johann MELF et al.

SERIAL NO.: EXAMINER:

FILING DATE: ART UNIT:

INTERNATIONAL APPLICATION NO.: PCT/DE99/00896

INTERNATIONAL FILING DATE: 25 March 1999

10 INVENTION: SUPPLY MODULE FOR FEEDING ELECTRICAL  
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MOUNTING MACHINE

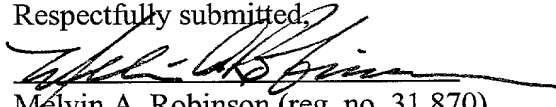
Hon. Assistant Commissioner for Patents  
Box PCT

15 Washington D.C. 20231

SIR:

Enclosed is a copy of the drawings as filed, showing Figures 1 - 3 on a  
single sheet. Also enclosed is a second copy of the drawings marked in red with  
proposed drawing changes. In particular, elements disclosed and claimed in the  
20 application are added to the drawings. No new matter is added thereby. Approval  
of the proposed drawing changes is hereby requested.

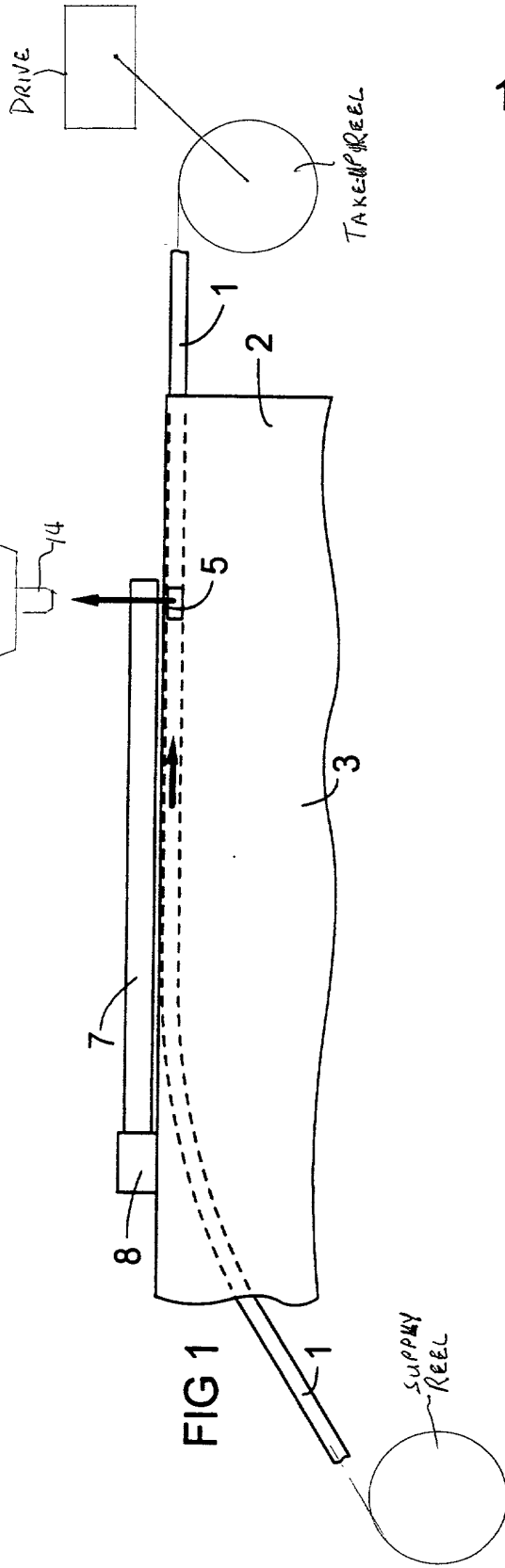
Respectfully submitted,

  
Melvin A. Robinson (reg. no. 31,870)

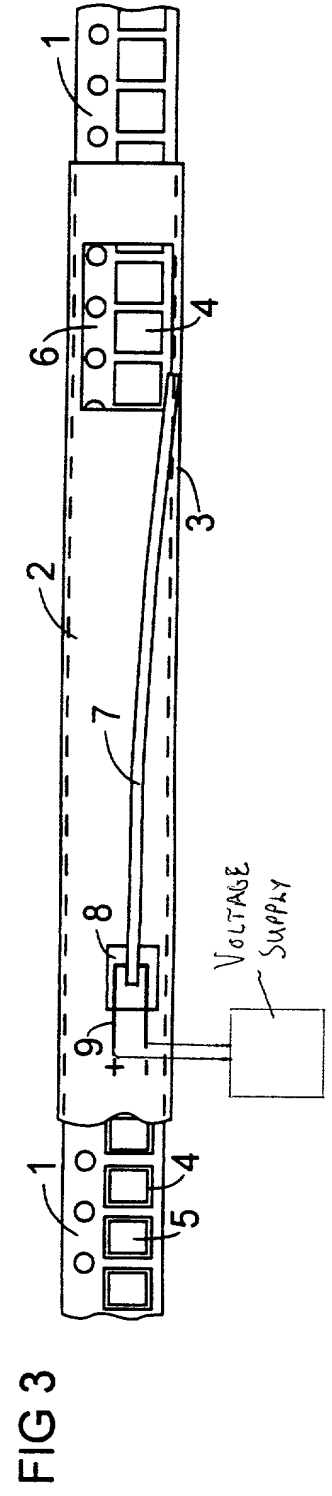
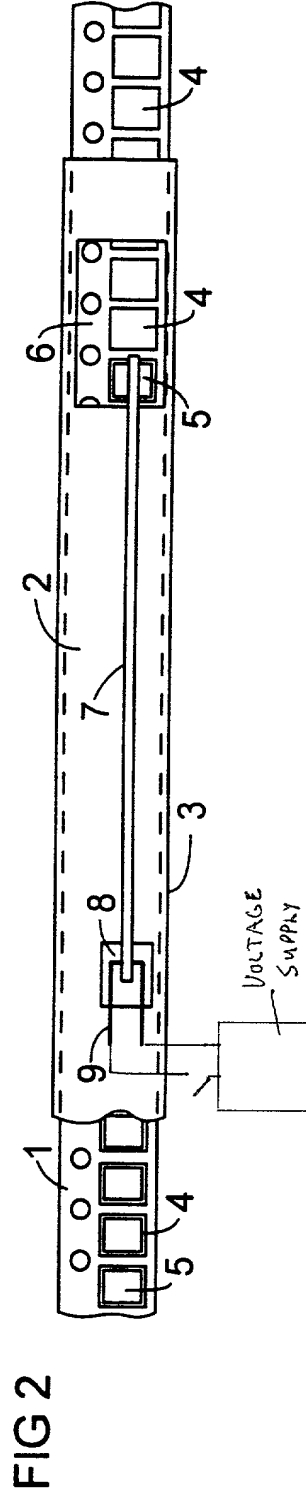
25 Schiff Hardin & Waite  
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6600 Sears Tower  
Chicago, Illinois 60606  
Telephone: 312-258-5785

30 ATTORNEY FOR APPLICANT

003260" 60044960



1/1



## Description

Supply module for feeding electrical components to an automatic component-mounting machine.

5

The invention relates to a supply module for feeding electrical components to an automatic component-mounting machine.

A module of this type has been disclosed e.g. by EP 0 460 834 A1, according to which the components are stored in a carrier belt that is drawn progressively through the module. In this case, the components are conveyed to a collection position under a slide which can be moved in the advancing direction. In order to prevent the components from jumping out upon jerky advancing of the belt, the slide initially covers the collection position, and releases it upon the approach of a removal tool of the automatic component-mounting machine, so that the component can be removed e.g. by means of a suction pipette. The slide is actuated by means of a lever mechanism coupled to a drive for the component belt, the slide excursion being equal to the pitch of the component belt.

Supply modules of this type are kept as narrow  
25 as possible so that the largest possible number can be  
arranged in the access region of the component-mounting  
tool. Components of different lengths can be  
accommodated in component belts of the same width. The  
belt advancing is designed such that the advancing  
30 length can be matched to the different pitches of the  
belt. The slide excursion must be kept large enough  
that even the longest components can be reliably  
covered.

The invention is based on the object of  
35 simplifying the supply module with regard to the  
securing and release of the components. This object is  
achieved by means of the invention in accordance with  
claim 1.

The maximum length of the components oriented in the advancing direction is considerably larger than the maximum width. The transversally deflectable locking element thus requires a smaller excursion  
5 which, moreover, may be independent of the dimensions of the component. As a result, the actuating mechanism of the locking element can be designed considerably more simply. In the case of wide components, in particular, it is possible that the locking element is  
10 narrower than said components. It is therefore advantageous if the locking element covers the center of the components at a short distance in the blocking position, in order to reliably impede the component on emplacement.

15 Advantageous developments of the invention are characterized in the claims 2 to 4:

The finger according to claim 2 can, for example, be mounted pivotably at its other end and be held in its blocking position by a torsion spring. A  
20 particular advantage is that the locking element can be arranged and mounted completely above the component belt. The finger can be laterally deflected e.g. by means of a simple plunger having a small excursion.

The development according to claim 3 simplifies  
25 the locking even more. The bending spring located edgewise above the component belt can easily be deflected laterally but is sufficiently stiff in the direction perpendicular to the belt plane to absorb the small emplacement forces of the components. The locking  
30 element is anchored on the supply module only at its non-free end and requires no additionally support or guidance whatsoever.

The development according to claim 4 combines  
35 the drive and blocking functions of the locking element in one structural part which can be actuated simply by applying an electric voltage. Such bending transducers can be



acquired inexpensively in suitable dimensions. The mechanical outlay is limited to the fixed clamping point on the supply module and to the connection of an electrical line to the electrical potentials present in the supply module.

The invention is explained in more detail below using an exemplary embodiment which is illustrated in the drawing.

Figure 1 shows a diagrammatic side view of a supply module for feeding electrical components to an automatic component-mounting machine,

Figure 2 shows a plan view of the supply module according to Figure 1 with a locking element located in the blocking position,

Figure 3 shows the supply module according to Figure 2 with the locking element in an open position.

According to Figures 1 and 2, a component belt 1 unwound from a reel is guided through a supply module 2 at a short distance from an exterior side 3 of the supply module 2 in accordance with the dashed lines, the exterior side 3 extending in the longitudinal direction of the component belt 1 and perpendicularly to the plane thereof.

The component belt 1 has pockets 4 strung closely together in its longitudinal direction and serving for accommodating electrical components 5 that are to be supplied. The component belt 1 is drawn progressively through the supply module 2 in accordance with the pitch spacing of the pockets 4 by means of a drive (not illustrated). In this case, the components 5 pass under a window 6 - open to the top - of the supply module 1, where they can be gripped by a suction pipette (not illustrated) of a component-mounting head for populating printed circuit boards and be lifted out in accordance with the arrow perpendicular to the component belt 1 in Figure 1. The advancing direction of the component belt 1 is indicated by the horizontal arrow.

There is arranged above the supply path of the component belt 1 a locking element 7 after the manner of a leaf spring clamped at one end, which spring extends in the central plane of the components 5 along the supply path and the material plane of which spring is perpendicular to the plane of the component belt 1. The free end of the locking element 7 projects from the supply direction into the window 6 to an extent such that it is located centrally above the component 5 which is situated therein and which is ready for removal. As a result, this exposed component 5 is prevented from changing its collection position upon jerky advancing of the component belt 1. The locking element 7 is designed as a piezoelectric bending transducer whose other end is clamped in a fixed bearing 8 of the supply module 2. The locking element 7 extends rectilinearly in the inactivated state.

In the region of the fixed bearing 8, electrical lines 9 are connected to the piezoceramic locking element 7. When a voltage is applied, the locking element 7 is deflected laterally as shown in Figure 3 to an extent such that it releases the component 5 which is ready for removal, which component is then lifted out of the pocket 4 of the component belt 1 in accordance with the vertical arrow in Figure 1. The applied voltage is then switched off, whereupon the locking element 7 springs back to its starting position and projects above the subsequent component.

## Patent claims

1. A supply module (2) for feeding electrical components (5) to an automatic component-mounting machine,

in which case the components (5) can be displaced in the supply module into a collection position from which they can be removed by a component-mounting head of the automatic component-mounting machine and can be placed onto a component carrier to be populated,

in which case a removal side of the collection position can be blocked by means of an adjustable locking element (7), that covers the supplied component (5) at least partially in a blocking position and that releases the component (5) in a removal position,

characterized

in that the locking element (7) is designed as a strip extending in the advancing direction, the width of which strip is less than the lateral distance between the component (5) and an adjacent exterior side (3) of the supply module (2), said exterior side extending in the advancing direction and being perpendicular to the advancing plane, and

in that the locking element (7) can be moved transversally with respect to the advancing direction into the edge region between the component (5) and the exterior side (3).

2. The supply module as claimed in claim 1, characterized

in that the locking element (7) is designed as a narrow finger projecting in the advancing direction, the free end of which finger forms the strip and projects into the removal region of the component (5) in the blocking position, and in that the free end can be moved into the edge region by lateral deflection.

3. The supply module as claimed in claim 2, characterized



## Abstract

Supply module for feeding electrical components to an automatic component-mounting machine

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The supply module (2) has a locking element (7) which is designed as a piezoceramic bending transducer and that extends in the longitudinal direction of the supply module (2) along a supply path for components (5). A free end of the locking element (7) projects into a window of the supply module (2) to an extent such that said locking element is located slightly above the component (5) which has been conveyed there and is ready for collection. By applying an operating voltage to the locking element (7), said locking element can be deflected laterally to an extent such that it is moved out of the coverage region of the component (5) transversally with respect to the advancing direction.

20           This considerably simplifies the locking and  
release of the component.

Figure 3

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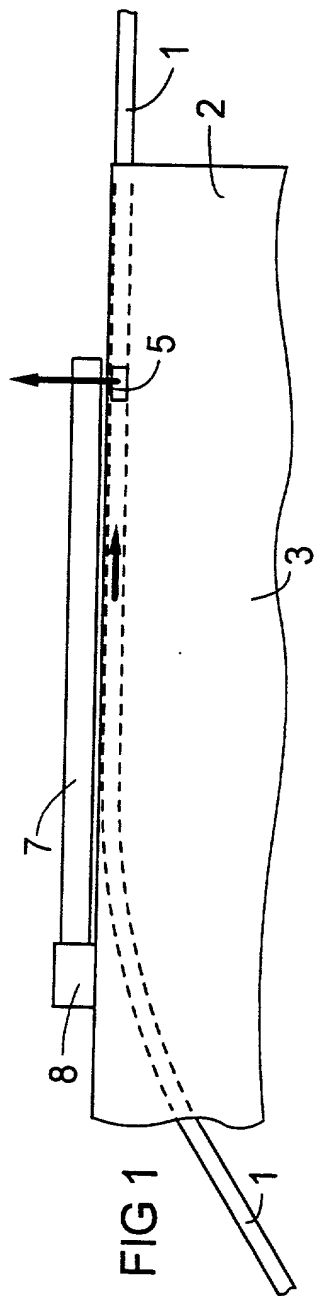


FIG 2

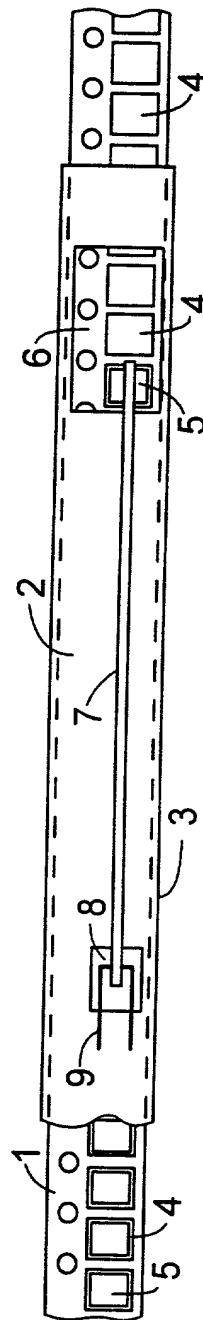
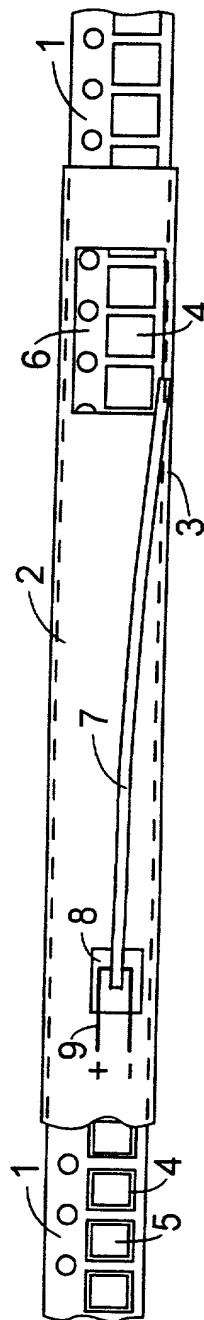


FIG 3



## German Language Declaration

Patent and Trademark Office-U.S. DEPARTMENT OF COMMERCE

# German Language Declaration

Prior foreign applications

Priorität beansprucht

Priority Claimed

198 13 500.9 Germany 26. März 1998  
(Number) (Country) (Day Month Year Filed)  
(Nummer) (Land) (Tag Monat Jahr eingereicht)

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Yes No  
Ja Nein

(Number) (Country) (Day Month Year Filed)  
(Nummer) (Land) (Tag Monat Jahr eingereicht)

☐ ☐  
Yes No  
Ja Nein

(Number) (Country) (Day Month Year Filed)  
(Nummer) (Land) (Tag Monat Jahr eingereicht)

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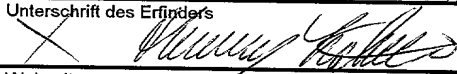
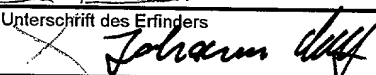
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